

AGENDA

Monday, October 10, 2005

- 8:15 - 9:00 AM: Plug-fest Registration.
- 9:00 - 5:00 PM: Plug-fest, moderator: Dirk Mohl, Hirschmann Automation and Control
Plug-fest activities (Open only to those directly involved in plug-fest testing).
- 1:00 - 2:00 PM: Tutorial Registration.
- 2:00 - 5:20 PM: **IEEE 1588 Tutorial.**
 - 2:00 - 3:30 PM: **IEEE 1588 Basics:** John C. Eidson, Agilent Technologies.
 - 3:30 - 3:50 PM: Break
 - 3:50 - 4:20 PM: **Telecommunications Applications:** Silvana Rodrigues, Zarlink Semiconductor.
 - 4:20 - 4:50 PM: **Industrial and Motion Control Applications:** Anatoly Moldovansky, Rockwell Automation; Ludwig Winkel, Siemens.
 - 4:50 - 5:20 PM: **Test and Measurement Applications:** John C. Eidson.

Tuesday, October 11, 2005

- 7:30 - 8:15AM: **Registration.**
- 8:15 - 8:40 AM: **Opening Session:**
 - **Opening comments and welcome,** Hans Weibel.
 - **Welcome from the University,** Wener Inderbitzin, President of the Zurich University of Applied Sciences.

Session 1:

(25 minute papers) **Implementation Topics-1**, Moderator: Dave Tonks, Semtech.

- 8:40-9:05 AM: **Servo Design Considerations for Software-only Implementations of the Precision Time Protocol:** **Presentation/Paper:** Nick Barendt, Kendall Correll, VXI Technology, Inc., Michael Branicky, Case Western Reserve University.
- 9:05-9:30 AM: **Investigation of IEEE 1588 on Gigabit Ethernet, Priority Tagged Frames and Ethernet Daisy Chain:** **Presentation/Paper:** Sivaram Balasubramanian, Anatoly Moldovansky and Ken Harris, Rockwell Automation.
- 9:30-9:55 AM: **Determination of the IEEE 1588 Relevant Timing Behaviour of 100Base-TX PHYs:** **Presentation/Paper:** Christoph Thurnheer, J. Blattner, M. Rupf, and H. Weibel, Zurich University of Applied Sciences.

- 9:55-10:20 AM: **Update on High Precision Time Synchronization:**
Presentation/Paper: Dieter Vook, Bruce Hamilton, Andrew Fernandez, Jeff Burch, and Vamsi Srikantam, Agilent Technologies.
- 10:20-10:45 A: Break

Session 2:

(20 minute papers) **Implementation Topics-2**, Moderator: Doug Arnold, Symmetricom.

- 10:45-11:05 AM: **Design of a FPGA-based Hardware IEEE 1588 Implementation:**
Presentation/Paper: John Guilford, Agilent Technologies.
- 11:05-11:25 AM: **IEEE-1588 Based Clock Synchronization for Non-Ethernet Networks:** **Presentation/Paper:** George Gaderer, Hannes Muhr, Institute of Computer Technology, Vienna University of Technology, Thilo Sauter, Austrian Academy of Sciences, Nikolaus Kerö, Oregano Systems.
- 11:25-11:45 AM: **Chip-Design Building Blocks for Precision Clock Synchronization in Ethernet Networks:** **Presentation/Paper:** Nikolaus Kerö, Roland Höller, Oregano Systems, Hannes Muhr, Georg Gaderer, Institute of Computer Technology, Vienna University of Technology, Thilo Sauter, Austrian Academy of Sciences.
- 11:45-12:05 AM: **Experiences with IEEE 1588 in Higher Cascaded Ethernet Networks:** **Presentation/Paper:** Dirk Mohl, Hirschmann Automation and Control.
- 12:05 - 1:00 PM: Lunch

Session 3:

(25 minute papers) **Measurement Issues and Applications**, Moderator: Ludwig Winkel, Siemens.

- 1:00-1:25 PM: **A Distributed Test and Measurement Application Using IEEE 1588:**
Presentation/Paper: Tony Lanagan, National Instruments.
- 1:25-1:50 PM: **IEEE 1588 in Test and Measurement Applications as Specified in LXI Standard v1.0:** **Presentation/Paper:** Bob Rennard, Agilent Technologies.
- 1:50-2:15 PM: **Application of IEEE 1588 in Substation Automation:**
Presentation/Paper: Lars Andersson, Alf Johansson, Christoph Brunner ABB Switzerland Ltd., High Voltage Products.
- 2:15-2:40 PM: **In Search of the Key to the Lock: Clock Synchronization Issues and Requirements in Semiconductor Manufacturing:**
Presentation/Paper: Ya-Shian Li (NIST), John Messina (NIST).
- 2:40-3:05 PM: **An IEEE-1588 Grand Master Clock:** **Presentation/Paper:** Doug Arnold, Paul Skoog, Symmetricom.

Session 4:

General Session: Moderator: Kang Lee, NIST

- 3:05-3:15 PM: **Report on IEEE 1588 Standards Activity:** **Presentation/Paper:** John C. Eidson, Agilent Technologies.
- 3:15-3:25 PM: **Plug-fest Introduction:** **Presentation/Paper:** Dirk Mohl, Hirschmann Automation and Control.
- 3:25-5:30 PM: Combined plug-fest/demo viewing and afternoon break.
- 7:30 PM: Conference Dinner

Wednesday, October 12, 2005

- 7:30-8:15 AM: **Registration**

Session 5:

(20/25 minute papers) **Telecommunications Issues and Applications**, Moderator:

Matthias Wenk, Siemens.

- 8:15-8:35 AM: **Using PTP for Synchronizing Legacy Networks:** **Presentation/Paper:** Heiko Gerstung, Meinberg Radio Clocks.
- 8:35-8:55 AM: **Implementation Considerations for IEEE 1588 in Telecom Applications:** **Presentation/Paper:** Steven Blackman, Vandana Upadhyay and Srinu Bangalore, Symmetricom.
- 8:55-9:15 AM: **IEEE 1588 in Telecommunications and Field Trial Results:** **Presentation/Paper:** Dave Tonks, Semtech.
- 9:15-9:35 AM: **Synchronizing IEEE 1588 Clocks Under the Presence of Significant Stochastic Network Delays:** **Presentation/Paper:** C. Heitz, C. Iantosca, H. Weibel, Zurich University of Applied Sciences.
- 9:35-10:00 AM: Break

Session 6:

(25 minute papers) **Residential Ethernet**, Moderator: John C. Eidson, Agilent Technologies

- 10:25-10:50 AM: **Precise Timing in a Residential Ethernet Environment:** **Presentation/Paper:** Michael Johas Teener, Broadcom, Felix Feng and Eric Ryu, Samsung.
- 10:50-11:15 AM: **Analysis of Clock Synchronization Approaches for Residential Ethernet:** **Presentation/Paper:** Geoffrey M. Garner, Samsung Electronics.

Session 7:

(20/25 minute papers) **Industrial Applications**, Moderator: Ken Harris, Rockwell Automation.

- 11:15-11:35 AM: **Rotational Synchronization via IEEE 1588:** **Presentation/Paper:** Keen-Hun Leong, Agilent Technologies.
- 11:35-12:00 PM: **Application of IEEE 1588 to Synchronize Multiple Robot Controllers:** **Presentation/Paper:** Michael Gerstenberger, Clemens Gmeiner and Stefan Mueller, Kuka Robotics.
- 12:00-1:00 PM: Lunch

Session 8:

(25 minute papers) **Implementation Topics-3**, Moderator: Hans Weibel, Zurich University of Applied Sciences.

- 1:00-1:25 PM: **Migration Towards IEEE 1588 Time Synchronization Over Gigabit Ethernet: Presentation/Paper:** Øyvind Holmeide and Sven Nylund, OnTime Networks.
- 1:25-1:50 PM: **Clock Synchronization Based on Transparent Clock Approach: Presentation/Paper:** Matthias Wenk, Siemens.
- 1:50-2:15 PM: **Clock Phase Change Compensation Using Graham Scan: Presentation/Paper:** August Ciuffoletti, Università degli Studi di Pisa, and Galina Antonova, GE.
- 2:15-2:40 PM: **A Simulation Study - Performance of IEEE 1588 Over Ethernet and IEEE 802.11b WLANs: Presentation/Paper:** Dr. Nirmala Shenoy, Rochester Institute of Technology, John Fischer, Paul Myers, Zeping Qui, Spectracom.
- 2:40-3:05 PM: Break
- 3:05-3:30 PM: **A Security Analysis of the IEEE 1588 Standard: Presentation/Paper:** Jeanette Sin Mei Tsang, Konstantin Beznosov, Laboratory Education and Research in Secure Systems Engineering (LERSSE) University of British Columbia.
- 3:30-3:55 PM: **IEEE 1588 Security Extensions: Requirements and Proposed Solutions: Presentation/Paper:** Stephan Schüler, Siemens Communications.
- 3:55-4:15 PM: **Closing Session:** Kang Lee